

Mini-workshop on opportunities to reveal New Physics with
feebly-interacting particles and ultra-rare decays in experiments with
extracted SPS beams at the CERN North Area

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The SHADOWS project to search for Feebly-Interacting Particles at CERN

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SHADOWS is a new experiment proposed at CERN within the Physics Beyond Colliders activity to search for a large variety of Feebly-Interacting Particles (FIPs) produced in the interactions of a proton beam with a dump.

It will use the 400 GeV primary proton beam extracted from the CERN SPS currently serving the NA62 experiment in the CERN North area and will take data running concurrently to NA62 when NA62 is operated in beam-dump mode.

SHADOWS can expand the exploration for a large variety of FIPs well beyond the state of the art in the MeV-GeV mass range which is allowed by cosmological and astrophysical observations and become one of the main players in the search for FIPs at accelerators in the next decade.

I will describe the proposal and its physics reach put into a worldwide context.

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